**FIG. 1**



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## FIG. 5

(SEQ ID NO: 4)

### Human Luteinizing Hormone (LH)

1                   8                   L1                   33  
SREPLRPWCHPINAILAVEKEGCPVCITVNTTICAGYCPTMMRVLQAVLP  
51                   58                   L3                   87  
PLPQVVCTYRDVRFESIRLPGCPRGVDPVVSFPVALSCRCGPCRRSTSDC  
101                   GGPKDHPLTCDHPQLSGLLFL

## FIG. 6

(SEQ ID NO: 5)

### Human Follicle Stimulating Hormone (FSH)

1                   4                   L1                   27  
NSCELTNITIAIEKEECRFCISINTTWCAGYCYTRDLVYKDPARPKitCT  
51                                   65                   L3                   81  
FKELVYETVRVPGCAHHADSLYTPVATQCHCGKCDSDSTDCTVRGLGPS  
101                   YCSFGEMKE

## FIG. 7

(SEQ ID NO: 6)

### Human Platelet-Derived Growth Factor-A (PDGF A-Chain)

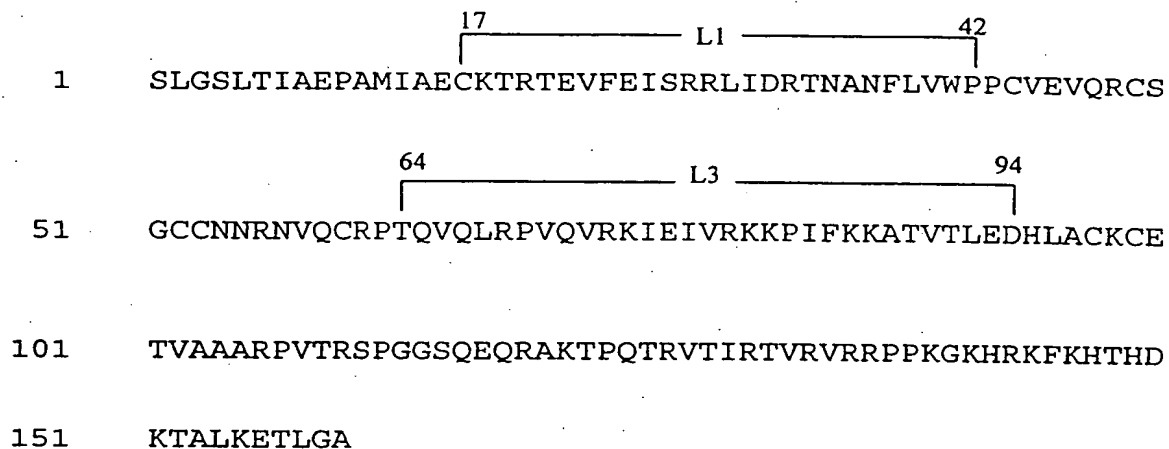
1                   11                   L1                   36  
SIEEAVPAVCKTRTVIYEIPRSQVDPTSANFLIWPPCVEVKRCTGCCNTS  
51                   58                   L3                   88  
SVKCQPSRVHHRSVKVAKVEYVRKKPKLKEVQVRLEEHLACATTSLNP  
101                   DYREEDTGRPRESGKKRKRRLKPT

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## FIG. 8

(SEQ ID NO: 7)

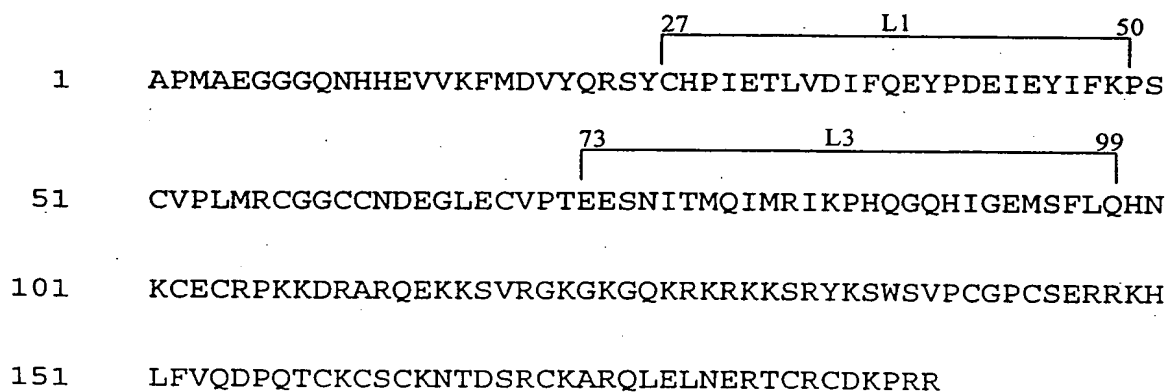
### Human Platelet-Derived Growth Factor-B (PDGF B-Chain)



## FIG. 9

(SEQ ID NO: 8)

### Human Vascular Endothelial Growth Factor



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## FIG. 10

(SEQ ID NO: 9)

### Human Nerve Growth Factor

1 SSSHPIFHRGEFSVCDSVSVWVGDKTTATDIKGKEVMVLGEVNNINSVFK  
16 L1  
57  
51 QYFFETKCRDPNPVDSGCRGIDSKHWNSYCTTTHTFVKAMLTGKQAAWR  
81 L3  
107  
101 FIRIDTACVCLSRKAVRRA

## FIG. 11

(SEQ ID NO: 10)

### Human Brain Derived Neurotrophic Factor

1 HSDPARRGELSVCDSEWVTAADKKTAVDMSGGTVTVLEKVSPVKGQLK  
14 L1  
57  
51 QYFYETKCNPMGYTKEGCRGIDKRHWNSQCRTTQSYVRAMLTDSKKRIGW  
81 L3  
108  
101 RFIRIDTSCVCILTIKRGR

**FIG. 12**

### Human Neurotrophin (NT)-3

**FIG. 13**

### Human Neurotrophin (NT)-4

**FIG. 14**

### Human Transforming Growth Factor (TGF)- $\beta$ 1

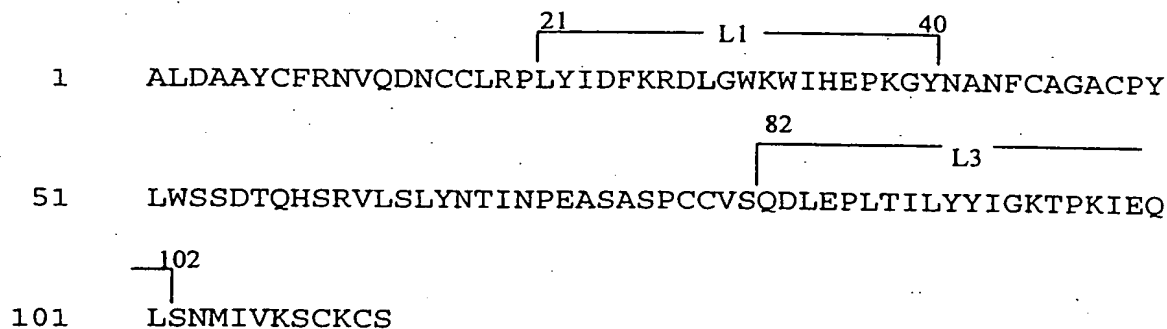
1 ALDTNYCFSSTEKNCCVRQLYIDFRKDLGWKWIHEPKGYHANFCLGPCPY  
 51 IWSLDTQYSKVLALYNQHNP GASAAPCCVPQALEPLPIVYYVGRKPKVEQ  
 101 LSNMIVRSCKCS

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## FIG. 15

(SEQ ID NO: 14)

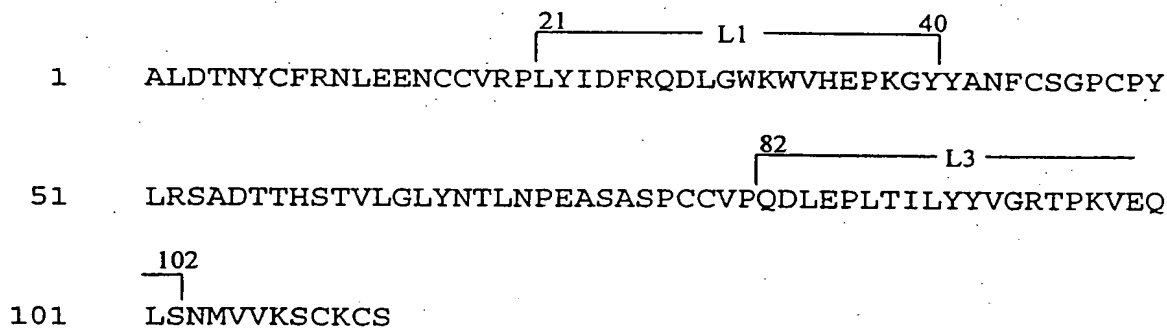
### Human Transforming Growth Factor (TGF)- $\beta$ 2



## FIG. 16

(SEQ ID NO: 15)

### Human Transforming Growth Factor (TGF)- $\beta$ 3



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## **FIG. 17**

(SEQ ID NO: 16)

### **Human Transforming Growth Factor (TGF)- $\beta$ 4**

1 MWPLWLCWAL WVLPLAGPGA ALTEEQLLAS LLRQLQLSEV PVLDRADMEK  
51 LVIPAHVRAQ YVLLRRDGD RSRGKRFSQS FREVAGRFLA SEASTHLLVF  
101 GMEQRLPPNS ELVQAVLRLF QEPVPQGALH RHGRLSPAAP KARVTVEWLV  
151 RDDGSNRTSL IDSRLVSVHE SGWKAFDVTE AVNFWQQLSR PPEPLLQVS  
201 VQREHLGPLA SGAHKLVRFA SQGAPAGLGE PQLELHTLDL RDYGAQGDCD  
251 PEAPMTEGTR CCRQEMYIDL QGMKWAKNWV LEPPGFLAYE CVGTCQOPPE  
301 ALAFNWPFLG PRQCIASETA SLPMIVSIKE GGRTRPOVVS LPNMRVQKCS  
351 CASDGALVPR RLQHRPWCIH

## **FIG. 18**

(SEQ ID NO: 17)

### **Human Neurturin**

1 MQRWKAALA SVLCSSVLSI WMCREGLLLS HRLGPALVPL HRLPRTLDAR  
51 IARLAQYRAL LQGAPDAMEL RELTPWAGRP PGPRRRAGPR RRRARARLGA  
101 RPCGLRELEV RVSELGLGYA SDETVLFRYC AGACEAAARV YDLGLRRLRQ  
151 RRRLRRRERV AQPCCRPTAY EDEVSFDAH SRYHTVHEL ARECACV



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## **FIG. 19**

(SEQ ID NO: 18)

**Human Inhibin  $\alpha$**   
**(Common to Inhibin A and Inhibin B)**

1 MVLHLLLFLL LTPQGGHSCQ GLELARELVL AKVRALFLDA LGPPAVTREG  
51 GDPGVRRLPR RHALGGFTHR GSEPEEEEDV SQAILFPATD ASCEDKSAAR  
101 GLAQEAEEGL FRYMFRPSQH TRSRQV TSAQ LWFHTGLDRQ GTAASNSSEP  
151 LLGLLLALSPG GPVAVPMSLG HAPPHWAVLH LATSALSLLT HPVLVLLLRC  
201 PLCTCSARPE ATPFLVAHTR TRPPSGGERA RRSTPLMSWP WSPSALRLIQ  
251 RPPEEPAAHA NCHRVALNIS FOELGWERWI VYPPSFIFHY CHGGCGLHIP  
301 PNLSLPVPGA PPTPAQPYSL LPGAQPCCAA LPGTMRPLHV RTTSDGGYSF  
351 KYETVPNLLT QHCACI

## **FIG. 20**

(SEQ ID NO: 19)

**Human Inhibin A -  $\beta$  Subunit ( $\alpha$ - $\beta$ A Heterodimer)**

1 MPLLWLRGFL LASCWIIIRS SPTPGSEGHS AAPDCPSCAL AALPKDVPNS  
51 QPEMVEAVKK HILNMLHLKK RPDVTQPVPK AALLNAIRKL HVGKVGNGY  
101 VEIEDDIGRR AEMNELMEQT SEIITFAESG TARKTLHFEI SKEGSDLSVV  
151 ERAEVWLFLK VPKANRTRTK VTIRLFQQQK HPQGS�DTGE EAEEVGLKGE  
201 RSELLLSEKV VDARKSTWHV FPVSSSIQRL LDQGKSSLDV RIACEQCQES  
251 GASLVLLGKK KKKEEEGEGK KKGGE GAG ADEEKEQSHR PFLMLQARQS  
301 EDHPHRRRRR GLECDGKVNI CCKKQFFVSF KDIGWNDWII APSGYHANYC  
351 EGECPSHIAG TSGSSLSFHS TVINHYRMRG HSPFANLKSC CVPTKLRPMS  
401 MLYYDDGONI IKKDIQNMIV EECGCS

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## ***FIG.21***

(SEQ ID NO: 20)

### **Human Inhibin B - $\beta$ Subunit ( $\alpha$ - $\beta$ B Heterodimer)**

1 MDGLPGRALG AACLLLLAAG WLGPEAWGSP TPPPTPAAPP PPPPPGSPGG  
51 SQDTCTSCGG FRRPEELGRV DGDFLEAVKR HILSRLQMRG RPNITHAVPK  
101 AAMVTALRKL HAGKVREDGR VEIPHLDGHA SPGADGQERV SEIISFAETD  
151 GLASSRVRLY FFISNEGNQN LFVVQASLWL YLKLLPYVLE KGSRRKVRVK  
201 VYFQEQGHGD RWNMVEKRVD LKRSGWHTFP LTEAIQALFE RGERRNLNDV  
251 QCDSCQELAV VPVFVDPGEE SHRPFVVVQA RLGDSRHRIR KRGLECDGRT  
301 NLCCRQQFFI DFRLIGWNDW IIAPTGY YGN YCEGSCPAYL AGVPGSASSF  
351 HTAVVNQYRM RGLNPGTVNS CCIPTKLSTM SMLYFDDEYN IVKRDVPNMI  
401 VEECGCA

## ***FIG.22***

(SEQ ID NO: 21)

### **Human Activin A ( $\beta$ A Homodimer)**

1 MPLLWLRGFL LASCWIIIVRS SPTPGSEGHS AAPDCPSCAL AALPKDVPNS  
51 QPEMVEAVKK HILNMLHLKK RPDVTQPVPK AALLNAIRKL HVGKVGENG  
101 VEIEDDIGRR AEMNELMEQT SEIITFAESG TARKTLHFEI SKEGSDLSVV  
151 ERAEVWLFLK VPKANRTRTK VTIRLFQQQK HPQGSOLDTGE EAEEVGLKGE  
201 RSELLLSEKV VDARKSTWHV FVPSSSIQRL LDQ GKSSLDV RIACEQCQES  
251 GASLVLLGKK KKKEEGEGEK KKG GEGGAG ADEEKEQSHR PFLMLQARQS  
301 EDHPHRRRRR GLECDGKVNI CCKKOFFVSF KDIGWNDWII APSGYHANYC  
351 EGECPSHIAG TSGSSLSFHS TVINHYRMRG HSPFANLKSC CVPTKLRPMS  
401 MLYYDDGONI IKKDIONMIV EECGCS

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## FIG.23

(SEQ ID NO: 22)

### Human Activin B ( $\beta$ B Homodimer)

1 MDGLPGRALG AACLLLLAAG WLGPEAWGSP TPPPTPAAPP PPPPGSPGG  
51 SQDTCTSCGG FRRPEELGRV DGDFLEAVKR HILSRLQMRG RPNITHAVPK  
101 AAMVTALRKL HAGKVREDGR VEIPHLDGHA SPGADGQERV SEIISFAETD  
151 GLASSRVRLY FFISNEGNQN LFVVQASLWL YLKLLPYVLE KGSRRKVRVK  
201 VYFQEQGHGD RWNMVEKRVD LKRSGWHTFP LTEAIQALFE RGERRLNLDV  
251 QCDSCQELAV VPVFVDPGEE SHRPFVVVQA RLGDSRHRIR KRGLECDGRT  
301 NLCCRQOFFI DFRLIGWNDW IIAPTGYGN YCEGSCPAYL AGVPGSASSF  
351 HTAVVNQYRM RGLNPGTVNS CCIPTKLSTM SMLYFDDEYN IVKRDVPNMI  
401 VEECGCA

## FIG.24

(SEQ ID NO: 23)

### Human Müllerian Inhibitory Substance (MIS)

1 MRDLPLTSLA LVLSALGALL GTEALRAEEP AVGTSGLIFR EDLDWPPGIP  
51 QEPLCLVALG GDSNGSSSPL RVVGALSAYE QAFLGAVQRA RWGPRDLATF  
101 GVCNTGDRQA ALPSLRRLGA WLRDPGGQRL VVLHLEEVTV EPTPSLRFQE  
151 PPPGGAGPPE LALLVLYPGP GPEVTVTRAG LPGAQSLCPS RDTRYLVLA  
201 DRPAGAWRGS GLALTLQPRG EDSRLSTARL QALLFGDDHR CFTRMTPALL  
251 LLPRSEPAPL PAHQQLDTPV FPPPRPSAEL EESPPSADPF LETLTRLVRA  
301 LRVPPARASA PRLALDPDAL AGFPQGLVNL SDPAALERLL DGEEPLLLLL  
351 RPTAATTGDP APLHDPTSAP WATALARRVA AELQAAAAEL RSLPGLPPAT  
401 APLLARLLAL CPGGPGGLGD PLRALLLLKA LQGLRVEWRG RDPRGPGRAQ  
451 RSAGATAADG PCALRELSVD LRAERSVLIP ETYQANNCQG VCGWPQSDRN  
501 PRYGNHVLL LKMQARGAAL ARPPCCVPTA YAGKLLISLS EERISAHVVP  
551 NMVATECGCR

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## FIG.25

(SEQ ID NO: 24)

### Human Bone Morphogenic Protein (BMP)-2

1 MVAGTRCLLA LLLPQVLLGG AAGLVPELGR RKFAAASSGR PSSQPSDEVL  
51 SEFELRLLSM FGLKQRPTPS RDAVVPYML DLYRRHSGQP GSPAPDHRLE  
101 RAASRANTVR SFHHEESLEE LPETSGKTTR RFFFNLSIP TEEFITSDEL  
151 QVFREQMQDA LGNNSSFHHR INIYEIIPKA TANSKFPVTR LLDTRLVNQN  
201 ASRWESFDVT PAVMRWTAQG HANHGFFVEV AHLEEKQGVV KRVHRISRL  
251 HQDEHSWSQI RPLLVTFGHD GKGHPLHKRE KRQAKHKQRK RLKSSCKRHP  
301 LYVDFSDVGW NDWIVAPPGY HAFYCHGECF FPLADHLNST NHAIVQTLVN  
351 SVNSKIPKAC CVPT~~ELSAIS~~ MLYLDENEKV VLKNYQDMVV EGCGR

## FIG.26

(SEQ ID NO: 25)

### Human Bone Morphogenic Protein (BMP)-3

1 MAGASRLLFL WLGCFCVSLA QGERPKPPFP ELRKAVPGDR TAGGGPDSEL  
51 QPQDKVSEHM LRLYDRYSTV QAARTPGSLE GGSQPWRPRL LREGNTVRSF  
101 RAAAAETLER KGLYIFNLTS LTKSENILSA TLYFCIGELG NISLSCPVS  
151 GCSHHAQRKH IQIDLSAWTL KFSRNQSPLL GHLSVDMAKS HRDIMSWLSK  
201 DITQFLRKAK ENEEFLIGFN ITSKGRQLPK RRLPFPEPYI LUYANDAAIS  
251 EPESVVSSLQ GHRNFPTGTV PKWDSHIRAA LSIERRKKRS TGVLLPLQNN  
301 ELPGAQYQYK KDEVWEERKP YKTLQAQAPK KSKNKKKQRK GPHRKSQTLQ  
351 FDEQTLKKAR RKQWIEPRNC ARRYLKVDFA DIGWSEWIIIS PKSFDAYYCS  
401 GACQFPMPKS LKPSNHATIQ SIVRAVGVVP GIPEPCCVPE KMSSLSILFF  
451 DENKNVVLKV YPNMTVESCA CR

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## FIG.27

(SEQ ID NO: 26)

### Human Bone Morphogenic Protein (BMP)-3b

1 MAHVPARTSP GPGPQLLLLL LPLFLLLLRD VAGSHRAPAW SALPAAADGL  
51 QGDRDLQRHP GDAAATLGPS AQDMVAVHMH RLYEKYSRQG ARPGGGNTVR  
101 SFRARLEVVD QKAVYFFNLT SMQDSEMILT ATFHFYSEPP RWPRALEVLC  
151 KPRAKNASGR PLPLGPPTRO HLLFRSLSON TATQGLLRGA MALAPPPRGL  
201 WQAKDISPIV KAARRDGELL LSAQLDSEER DPGVPRPSPY APYILVYAND  
251 LAISEPNSVA VTLQRYDPFP AGDPEPRAAP NNSADPRVRR AAQATGPLQD  
301 NELPGLDERP PRAHAQHFKH HQLWPSPFRA LKPRPGRKDR RKKGQEVFMA  
351 ASQVLDFDEK TMQKARRKQW DEPRVCSRRY LKVDFADIGW NEWIISPKSF  
401 DAYYCAGACE FPMPKIVRPS NHATIQSIVR AVGIIPGIPE PCCVPDKMNS  
451 LGVLFLDENR NVVLKVYPNM SVDTACR

## FIG.28

(SEQ ID NO: 27)

### Human Bone Morphogenic Protein (BMP)-4

1 MIPGNRMLMV VLLCQVLLGG ASHASLIPET GKKKVAEIQG HAGGRRSGQS  
51 HELLRDFEAT LLQMFGRLRR PQPSKSAVIP DYMRDLRLQ SGEEEEEQIH  
101 STGLEYPERP ASRANTVRSF HHEEHLENIP GTSSENSAFRF LFNLSIPEN  
151 EAISSAELRL FREQVDQGPD WERGFRINI YEVMKPPAEV VPGHLITRLL  
201 DTRLVHHNVT RWETFDVSPA VLRWTREKQP NYGLAIEVTH LHQTRTHGQ  
251 HVRISRSLPQ GSGNWAQLRP LLVTFGHDGR GHALTRRRRA KRSPKHHSQR  
301 ARKKKNKCRR HSLYVDFSDV GWNDWIVAPP GYQAFYCHGD CPFPLADHLN  
351 STNHAIVQTL VNSVNSSIPK ACCVPTLSA ISMLYLDEYD KVVLKNYOEM  
401 VVEGCGCR

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## FIG. 29

(SEQ ID NO: 28)

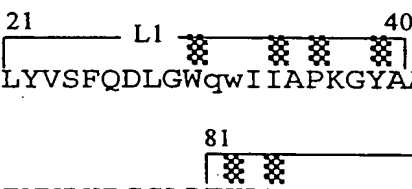
### Human Bone Morphogenetic Protein (BMP)-5 Precursor

1 MHLTVFLLKG IVGFLWSCWV LVGYAKGGLG DNHVHSSFIY RRLRNHERRE  
51 IQREILSILG LPHRPRPFSP GKQASSAPLF MLDLYNAMTN EENPEESEYS  
101 VRASLAEETR GARKGYASP NGYPRRIQLS RTTPLTTQSP PLASLHDTNF  
151 LNDADMVMSF VNLVERDKDF SHQRRHYKEF RFDLTQIPHG EAVTAAEFRI  
201 YKDRSNNRFE NETIKISIQ IIKEYTNRDA DLFLDTRKA QALDVGWLVF  
251 DITVTSNHVW INPQNNLGLQ LCAETGDGRS INVKSAGLVG RQGPQSKQPF  
301 MVAFFKASEV LLRSVRAANK RKNQNRNKSS SHQDSSRMSS VGDYNTSEQK  
351 QACKKHELYV SFRDLGWQDW IIAPEGYAAF YCDGECSPPL NAHMNATNHA  
401 IVQTLVHLMF PDHVPKPCCA PTKLNAISVL YFDDSSNVIL KKYRNMVVR  
451 CGCH

## FIG. 30

(SEQ ID NO: 29)

### Human Bone Morphogenetic Protein (BMP)-6/Vgrl

1 SSASDYNSELKTACRKHELYV   
51 LNAhtNHAIVQTLVHLMNPEYVPKPCCAPTKLNAISVL YFDDNSNVikKY  
101 RNMVVRACGCH

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## FIG.31

(SEQ ID NO: 30)

### Human Bone Morphogenic Protein (BMP)-7/Osteogenic Protein (OP)-1

1 ANVAENSSSDQRQACKKHELYVSFRDLGWQWIIAPEGYAAYYCEGECAFP  
51 LNSATNHAIVQTLVHFINPETVPKPCCAPTQLNAISVLYFDDSSNVIKKY  
101 RNMVVRACGCH

21 L1 40  
81 L3

## FIG.32

(SEQ ID NO: 31)

### Human Bone Morphogenic Protein (BMP)-8/Human Osteogenic Protein (OP)-2

1 MTALPGPLWL LGLALCALGG GPGRLRPPPG CPQRRLGARE RRDVQREILA  
51 VLGLPGRPRP RAPPAASRLP ASAPLFMLDL YHAMAGDDDE DGAPAERRLG  
101 RADLVMSFVN MVERDRALGH QEPHWKEFRF DLTQIPAGEA VTAAEFRIYK  
151 VPSIHLNRT LHVSMFQVVQ EQSNRESDLF FLDLQTLRAG DEGWLVLDDVT  
201 AASDCWLLKR HKDLGLRLYV ETEDGHSVDP GLAGLLGQRA PRSQPFVVT  
251 FFRASPSPIR TPRAVRPLRR RQPKKSNELP QANRLPGIFD DVHGSHGRQV  
301 CRRHELYVSF QDLGWLDWVI APOGYSAYYC EGECSFPLDS CMNATNHAIL  
351 QSLVHLMKPN AVPKACCAPT KLSATSVLYY DSSNNVILRK HRNMVVKACG  
401 CH

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## ***FIG.33***

(SEQ ID NO: 32)

### **Human Bone Morphogenic Protein (BMP)-10**

1 MGSLVLTLCALFCLAAYLVS GSPIMNLEQS PLEEDMSLFG DVFSEQDGV  
51 FNTLLQSMKDEFLKTLNLSDIPTQDSAKVD PPEYMLELYN KFATDRTSMP  
101 SANIIRSFKNEDLFSQPVSF NGLRKYPLLF NVSIPHHEEV IMAELRLYTL  
151 VQRDRMIYDGVDRKITIFEV LESKGDNEGERNMLVLVSGE IYGTNSEWET  
201 FDVTDAIRRWQKSGSSTHQL EVHIESKHDE AEDASSGRLE IDTSAQNKHN  
251 PLLIVFSDDQSSDKERKEEL NEMISHEQLPELDNLGLDSF SSGPGEEALL  
301 QMRSNIIYDSTARIRRNAKG NYCKRTPLYI DFKEIGWDSW IIAPPGYEAY  
351 ECRGVCNYPL AEHLTPTKHA IIQALVHLKN SQKASKACCV PTKLEPISIL  
401 YLDKGVVTYK FKYEGMAVSE CGCR

## ***FIG.34***

(SEQ ID NO: 33)

### **Human Bone Morphogenic Protein (BMP)-11**

1 MVLAAPLLLG FLLLALELRP RGEAAEGPAA AAAAAAAAAA AGVGGERSSR  
51 PAPSVAPEPD GCPVCVWRQH SRELRLSEIK SQILSKLRLK EAPNISREVV  
101 KQLLPKAPPL QQILDLDHDFQ GDALQPEDFL EEDEYHATTE TVISMAQETD  
151 PAVQTDGSPL CCHFHFSPKV MFTKVLKAQL WVYLRPVPRP ATVYLQILRL  
201 KPLTGEGTAG GGGGERRHIR IRSCLKIELHS RSGHWQSIDE KQVLHSWFRQ  
251 PQSNWGIEIN AFDPSGTDLA VTSLGPGAEG LHPFMELRVL ENTKRSRRNL  
301 GLDCDEHSSE SRCCRYPLTV DFEAFGWDWI IAPKRYKANY CSGQCEYMF  
351 QKYPHTHLVQ QANPRGSAGP CCTPTKMSPI NMLYFNDKQQ IIYGKIPGMV  
401 VDRCGCS



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## **FIG.35**

(SEQ ID NO: 34)

### **I. HUMAN BONE MORPHOGENIC PROTEIN (BMP)-15**

1 MVLLSILRIL FLCELVLFME HRAQMAEGGQ SFIALLAEP TLPLIEEMLE  
51 ESPGEQPRKP RLLGHSLRYM LELYRRSADS HGHPRENRTI GATMVRLVKP  
101 LTSVARPHRG TWHIQILGFP LRPNRGLYQL VRATVVYRHH LQLTRFNLSC  
151 HVEPWVQKNP TNHFPSSEGD SSKPSLMSNA WKEMDITQLV QQRFWNNKGH  
201 RILRLRFMCQ QQKDSGGLEL WHGTSSLDIA FLLLYFNDTH KSIRKAKFLP  
251 RGMEEFMERE SLLRRTRQAD GISA EVTASS SKHSGPENNQ CSLHPFQISF  
301 RQLGWDHWII APPFYTPNYC KGTCLRVLRD GLNSPNHAI QNLINQLVDO  
351 SVPRPSCVPY KYVPISVLM EANGSILYKE YEGMIAESCT CR

## **FIG.36**

(SEQ ID NO: 35)

### **Human Norrie Disease Protein (NDP)**

**[Norrin]**

1 MRKHVLAASF SMLSLLVIMG DTDSKTDSSF IMDSDP RR CM RHHYVDSISH  
51 PLYKCSSKMV LLARCEGHCS QASRSEPLVS FSTVLKQPFR SSCHCCRPQT  
101 SKLKALRLRC SGGMRLTATY RYILSCHCEE CNS

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## FIG.37

(SEQ.ID NO: 36)

### Human Growth Differentiation Factor (GDF)-1

1 MPPPQQGPCG HLLLLLLALL LPSLPLTRAP VPPGPAAALL QALGLRDEPQ  
51 GAPRLRPVPP VMWRLFRRRD PQETRSGSRR TSPGVTLQPC HVEELGVAGN  
101 IVRHIPDRGA PTRASEPVSA AGHCPEWTVV FDLSAVEPAE RPSRARLELR  
151 FAAAAAAPE GGWELSVQA GQGAGADPGP VLLRQLVPAL GPPVRAELLG  
201 AAWARNASWP RSLRLALALR PRAPAACARL AEASLLLVTI DPRLCHPLAR  
251 PRRDAEPVLG GPGGACRAR RLYVSFREV GWHRWVIAPRG FLANYCQGQC  
301 ALPVALSGSG GPPALNHAVAL RALMHAAAPG AADLPCCVPA RLSPISVLFF  
351 DNSDNVVLRO YEDMVVDECG CR

## FIG.38

(SEQ ID NO: 37)

### Human Growth Differentiation Factor (GDF)-5 Precursor

1 MRLPKLLTFL LWYLAULDLE FICTVLGAPD LGQRPQGSRP GLAKAEAKER  
51 PPLARNVFRP GGHSYGGGAT NANARAKGGT GQTGGLTQPK KDEPKKLPPR  
101 PGGPEPKPGH PPQTRQATAR TVTPKGQLPG GKAPPKAGSV PSSFLLKKAR  
151 EPGPPREPKE PFRPPPITPH EYMLSLYRTL SDADRKGGNS SVKLEAGLAN  
201 TITSFIDKGQ DDRGPVVRKQ RYVFDISALE KDGLLGAEELR ILRKKPSDTA  
251 KPAVPRSRRA AQLKLSSCPS GRQPAALLDV RSVPGLDGSG WEVFDIWKLF  
301 RNFKNQAQLC LELEAWERGR TVDLRGLGFD RAARQVHEKA LFLVFGRTKK  
351 RDLFFNEIKA RSGQDDKTIV EYLFSQRRKR RAPSATRQK RPSKNLKARC  
401 SRKALHVNEK DMGWDDWIIA PLEYEAFHCE GLCEFFPLRSH LEPTNHAVIQ  
451 TLMNSMDPES TPPTCCVPTR LSPISILFID SANNVYKQY EDMVVESCGC  
501 R

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## **FIG.39**

(SEQ ID NO: 38)

### **Human Growth Differentiation Factor (GDF)-8 [Myostatin]**

1 MQKLQLCVYI YLFMLIVAGP VDLNENSEQK ENVEKEGLCN ACTWRQNTKS  
51 SRIEAIKIQI LSKLRLETAP NISKDVIRQL LPKAPPLREL IDQYDVQRDD  
101 SSDGSLEDDD YHATTETIIT MPTESDFLMQ VDGKPKCCFF KFSSKIQYNK  
151 VVKAQLWIYL RPVETPTTVF VQILRLIKPM KDGTRYTGIR SLKLDMPNGT  
201 GIWQSIDVKT VLQNLWKQPE SNLGIEIKAL DENGHD LAVT FPGPGEDGLN  
251 PFLEVKVTD T PKRSRRDFGL DCDEHSTESR CCRYPLTVDF EAFGWDWIIA  
301 PKRYKANYCS GECEFVFLQK YPHTHLVHQA NPRGSAGPCC TPTKMSPINM  
351 LYFNGKEQII YGKIPAMVVD RCGCS

## **FIG.40**

(SEQ ID NO: 39)

### **Human Growth Differentiation Factor (GDF)-9**

1 MARPNKFLW FCCFAWL CFP ISLGSQASGG EAQIAASAEL ESGAMPWSLL  
51 QHIDERDRAG LLPALFKVLS VGRGGSPRLQ PDSRALHYMK KLYKTYATKE  
101 GIPKSNRSHL YNTVRLFTPC TRHKQAPGDQ VTGILPSVEL LFNLDRIITV  
151 EHLLKSVLLY NINNSVSFSS AVKVCVNLMI KEPKSSRTL GRAPYSFTFN  
201 SQFEFGKKHK WIQIDVTSLL QPLVASNKRS IHMSINF TCM KDQLEHPSAQ  
251 NGLFNMTLVS PSLILYLNDT SAQAYHSWYS LHYKRRPSQG PDQERSLSAY  
301 PVGEEAAEDG RSSHHRHRRG QETVSSELKK PLGPASFNLS EYFRQFLLPQ  
351 NECELHDFRL SFSQLKWDNW IVAPHRYNPR YCKGDCPRAV GHRYGSPVHT  
401 MVQNIIEYKL DSSVPRPSCV PAKYSPLSVL TIEPDGSIAY KEYEDMIATK  
451 CTCR

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## ***FIG.41***

(SEQ ID NO: 40)

### **Human Artemin (GDNF)**

1    MPGLISARGQ PLLEVLPPQA HLGALFLPEA PLGLSAQPAL WPTLAALALL  
51    SSVAEASLGS APRSPAPREG PPFVLASPAG HLPGGRTARW CSGRRARRPPP  
101    QPSRPAPPPP APPSALPRGG RAARAGGPGS RARAAGARGC RLRSOLVPVR  
151    ALGLGHRSDE LVRFRFCSGS CRRARSPHDL SLASLLGAGA LRPPPGSRPV  
201    SQPCCRPTRY EAVSFMDVNS TWRTVDRLSA TACGCLG

## ***FIG.42***

(SEQ ID NO: 41)

### **Human Glial Cell Derived Factor (GDNF)**

**[Persephin]**

1    MAVGKFLLS LLLSLQLGQ GWGPDARGVP VADGEFSSEQ VAKAGGTWLG  
51    THRPLARLRR ALSGPCQLWS LTLSVAELGL GYASEEKVIF RYCAGSCPRG  
101    ARTQHGLALA RLQGQGRAHG GPCCRPTRYT DVAFLDDRHR WORLPQLSAA  
151    ACGCGG